

CLAIMS

What is claimed is:

1. A cursor simulator installed in a main system, the main system comprising a display device having a predetermined display frame for displaying a cursor,
5 the main system is connected to an optical reading device having a predetermined view scope, wherein when the optical reading device receives a plurality of optical signals, the optical reading device transmits the optical signals to the main system, and the main system transmits the optical signals to the cursor simulator, the cursor simulator comprising:
10 a receiving module for receiving the optical signals;
a position corresponding module for corresponding the view scope of the optical reading device to the display frame of the display device so that each position in the view scope corresponds to a position on the display frame;
a display module for detecting the position on the display frame
15 corresponding to the position of the optical signal in the view scope, and displaying the optical signal on a simulation display frame, wherein the simulation display frame comprises a plurality of optical signal display positions, and each optical signal display position corresponds to a specific position on the display frame;
20 a specific area display module for marking a specific area on the display frame;
a limb image color parameter acquiring module for reading the color parameter of each optical signal display position in an area on the simulation display frame corresponding to the specific area of the display
25 frame so as to obtain a limb image color parameter according to the

variation of the color parameter of the optical signal display position; and
a limb image forming module for reading the color parameter of each
optical signal display position on the simulation display frame, wherein
when the color parameter is approximately equal to the limb image color
parameter, the limb image forming module records the optical signal
display position, and then form a simulated limb image according to all of
the recorded optical signal display positions.

2. The cursor simulator of claim 1, wherein the limb image is a hand image.

3. The cursor simulator of claim 1, further comprising a floating parameter
acquiring module for acquiring a floating parameter according to the
different color parameters of the optical signals displayed on the simulation
display frame at different times, wherein the color parameter is
approximately equal to the wavelength parameter when a difference
between the color parameter and the wavelength parameter is less than or
equal to the floating parameter.

4. The cursor simulator of claim 1, further comprising a comparing module for
comparing the positions of the simulated limb image formed by the limb
image forming module at the different times so as to generate a position
comparing result.

5. The cursor simulator of claim 3, further comprising:
a switching module for switching the cursor simulator to be in a command
mode and a movement mode; and
a determining module for determining whether the simulated limb image is
being moved during a specific period according to the position comparing
result generated by the comparing module, wherein if yes, the cursor
simulator is in the movement mode, and if no, the cursor simulator is in the

command mode.

6. The cursor simulator of claim 4, wherein when the cursor simulator is in the movement mode, the cursor simulator determine s the relative movement of the simulated limb image according to the position comparing result
5 generated by the comparing module, and moves the cursor displayed on the display frame according to the relative movement.

7. The cursor simulator of claim 4, further comprising a limb posture determining module for determining the posture of the simulated limb image formed by the limb image forming module, wherein when the cursor
10 simulator is in the command mode, the limb posture determining module generates a command code according to the limb image.

8. The cursor simulator of claim 6, further comprising a commanding module, the commanding module having a command table comprising a plurality of commands and a plurality of command codes, each of the commands being
15 corresponding to a command code, wherein the commanding module finds the command corresponding to the command code generated by the limb posture determining module so that the cursor simulator sends out the command.

9. The cursor simulator of claim 1, wherein the position corresponding module
20 automatically corresponds the view scope of the optical reading device to the display frame of the display device so that each position in the view scope corresponds to a position on the display frame.

10. The cursor simulator of claim 1, wherein a user applies the position
25 corresponding module to correspond the view scope of the optical reading device to the display frame of the display device in a manual way so as to make each position in the view scope correspond to a position on the

display frame.

11. A cursor simulating method applied in a main system, the main system comprising a display device having a predetermined display frame for displaying a cursor, and a cursor simulator for executing the cursor
5 simulating method, the main system being connected to an optical reading

device having a predetermined view scope, wherein when the optical reading device receives a plurality of optical signals, the optical reading device transmits the optical signals to the main system, and the cursor simulator of the main system executes the cursor simulating method, the

10 method comprising:
a position corresponding step for corresponding the view scope of the optical reading device to the display frame of the display device so that each position in the view scope corresponds to a position on the display frame;
a displaying step for detecting the position on the display frame
15 corresponding to the position of the optical signal in the view scope, and displaying the optical signal on a simulation display frame, wherein the simulation display frame comprises a plurality of optical signal display positions, and each optical signal display position corresponds to a specific position on the display frame;

20 a specific area displaying step for marking a specific area on the display frame;
a limb image color parameter acquiring step for reading the color parameter of each optical signal display position in an area on the simulation display frame corresponding to the specific area of the display frame so as to obtain
25 a limb image color parameter according to the variation of the color parameter of the optical signal display position; and

a limb image forming step for reading the color parameter of each optical signal display position on the simulation display frame; wherein when the color parameter is approximately equal to the limb image color parameter, the limb image forming module records the optical signal display position, and then forms a simulated limb image according to all of the recorded optical signal display positions.

12. The cursor simulating method of claim 11, further comprising a floating parameter acquiring step for acquiring a floating parameter according to the different color parameters of the optical signals displayed on the simulation display frame in different times, wherein the color parameter is approximately equal to the wavelength parameter when the difference between the color parameter and the wavelength parameter is smaller than or equal to the floating parameter.

13. The cursor simulating method of claim 11, further comprising a comparing step for comparing the positions of the simulated limb image formed in the limb image forming step in the different times so as to generate a position comparing result.

14. The cursor simulating method of claim 13, wherein the cursor simulator further comprises a switching module for switching the cursor simulator between a command mode and a movement mode, the method further comprising:
a determining step for determining whether the simulated limb image is being moved during a specific period according to the position comparing result generated in the comparing step, wherein if yes, the switching module switches the cursor simulator to the movement mode, and if no, the switching module switches the cursor simulator to the command mode.

15. The cursor simulating method of claim 14, wherein when the cursor simulator is in the movement mode, the cursor simulator determines the relative movement of the simulated limb image according to the position comparing result generated in the comparing step, and moves the cursor
5 displayed on the display frame according to the relative movement.

16. The cursor simulating method of claim 14, further comprising a limb posture determining step for determining the posture of the simulated limb image formed in the limb image forming step, wherein when the cursor simulator is in the command mode, the limb posture determining step
10 generates a command code according to the limb image.

17. The cursor simulating method of claim 16, further comprising a commanding module, the commanding module having a command table comprising a plurality of commands and a plurality of command codes, each command corresponding to a command code, wherein the
15 commanding module finds the command corresponding to the command code generated in the limb posture determining step so that the cursor simulator sends out the command.

18. The cursor simulating method of claim 11, wherein the position corresponding step is automatically performed to correspond the view scope
20 of the optical reading device to the display frame of the display device so that each position in the view scope corresponds to a position on the display frame.

19. The cursor simulating method of claim 11, wherein a user performs the position corresponding step to correspond the view scope of the optical
25 reading device to the display frame of the display device in a manual way so as to make each position in the view scope correspond to a position on

the display frame.